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National Energy
Board

Office national
de l'énergie

Reasons for Decision

**Maritimes & Northeast
Pipeline Management Ltd.**

GH-2-99



October 1999

Facilities

National Energy Board

Reasons for Decision

In the Matter of

**Maritimes & Northeast
Pipeline Management Ltd.**

Halifax Lateral Facilities Application
dated 5 June 1998, as amended

GH-2-99

October 1999

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represented by the National Energy Board

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Approximate Conversions

1 metre	=	3.28 feet
1 kilometre	=	0.62 miles
1 cubic metre	=	35.3 cubic feet
1 gigajoule	=	0.95 MMBtu
1 000 kilopascal	=	145 psi
1 000 cubic metres	=	38.86 gigajoules

Abbreviations

ACS	Aboriginal Contracting Strategy
AFUDC	Allowance for funds used during construction
Agency	Canadian Environmental Assessment Agency
Assembly	Assembly of Nova Scotia Mi'kmaq Chiefs
$10^3 \text{m}^3/\text{d}$	thousand cubic metres per day
$10^6 \text{m}^3/\text{d}$	million cubic metres per day
10^9m^3	billion cubic metres
Btu	British thermal unit
Board or NEB	National Energy Board
CEAA	<i>Canadian Environmental Assessment Act</i>
CMM	Confederacy of Mainland Mi'kmaq
CSR	Comprehensive Study Report
DFO	Department of Fisheries and Oceans Canada
EPN	Early Public Notification
FSA	Firm Service Agreement
GFR	NEB's <i>Guidelines for Filing Requirements</i>
Halifax Lateral	natural gas pipeline lateral from M&NP's mainline to the HRM
HRM	Halifax Regional Municipality
Irving Oil	Irving Oil Limited
JRP	Joint Review Panel
km	kilometre
KP	kilometre post
kPa	kilopascals
LDC	local distribution company

LOC	Letter of Commitments
m	metre
Maritimes NRG	Maritimes NRG (Nova Scotia) Limited
mm	millimetre
MMBtu/d	million Btus per day
M&NP	Maritimes & Northeast Pipeline Management Ltd.
Mobil	Mobil Oil Canada Properties
MN365	365 day firm transportation service
NEB or Board	National Energy Board
NEB Act	<i>National Energy Board Act</i>
NPS 10	nominal pipe size 10" (273.1 mm outside diameter)
NPS 12	nominal pipe size 12" (323.9 mm outside diameter)
New Brunswick	Province of New Brunswick
Nova Scotia	Province of Nova Scotia, Petroleum Directorate
NSPI	Nova Scotia Power Inc.
NSURB	Nova Scotia Utility and Review Board
OPR	NEB's <i>Onshore Pipeline Regulations</i>
psi	pounds per square inch
Shell	Shell Canada Resources Limited
SOEP	Sable Offshore Energy Project
Sempra	Sempra Atlantic Gas Incorporated
Supplementary Report	Halifax Lateral Pipeline Project Environmental Report Supplementary Information
TEK Study	Traditional Ecological Knowledge Study
VSECs	Valued Socio-Economic Components

Recital and Appearances

IN THE MATTER OF the *National Energy Board Act* (NEB Act) and the Regulations made thereunder;

AND IN THE MATTER OF an application dated 5 June 1998, as amended, by Maritimes & Northeast Pipeline Management Ltd. on behalf of Maritimes & Northeast Pipeline Limited Partnership for a Certificate of Public Convenience and Necessity pursuant to Part III, section 52 of the NEB Act authorizing the construction and operation of a lateral pipeline and for a related tolling order pursuant to Part IV of the NEB Act;

AND IN THE MATTER OF the National Energy Board Hearing Order GH-2-99;

HEARD at Halifax, Nova Scotia, on 10, 11, 12, 13, 14 and 17 May 1999.

BEFORE:

J.A. Snider	Presiding Member
C.M. Ozirny	Member
J.-P. Théorêt	Member

APPEARANCES:

L.E. Smith	Maritimes & Northeast Pipeline Management Ltd.
N. Gretener	
S. Denstedt	
D. Jones	
R. Fraser	Voluntary Planning Energy Sector
J. Reynolds	
A. Ruffman	CanEnerco Limited and Geostorage Associates
P. Walsh	
J.K. Thomson	
J.H. Smellie	Irving Oil Limited
M. MacDonald	Maritimes NRG (Nova Scotia) Limited
E. Bhar	
G. Cameron	
P.W. Gurnham, Q.C.	Nova Scotia Power Inc.
K. Burke	
D.V. Facey	Sable Offshore Energy Inc.

D.G. Coles	Sempra Atlantic Gas Incorporated
S.T. McGrath	
D.A. Reid	
P. Prosper	The Assembly of Nova Scotia Mi'kmaq Chiefs
R.K. Sweeney	Fisheries and Oceans Canada
J. Leadbetter	
M.E. Donovan	Halifax Regional Municipality
R. Hunka	Native Council of Nova Scotia
I. Blue, Q.C.	Province of New Brunswick
A. Hamilton	
H.D. Williamson, Q.C.	Province of Nova Scotia Petroleum Directorate
D. Cameron	
M. Burgess, Q.C.	
M. Proud	Province of Prince Edward Island
J. Hanebury	Board Counsel
C. McKinnon	

Chapter 1

Introduction

1.1 Section 52 Application

On 5 June 1998, Maritimes & Northeast Pipeline Management Ltd. (M&NP), on behalf of Maritimes & Northeast Pipeline Limited Partnership, applied to the National Energy Board (Board or NEB) for a Certificate of Public Convenience and Necessity, pursuant to Part III, section 52 of the *National Energy Board Act*¹ (NEB Act) to construct and operate a natural gas pipeline lateral (Halifax Lateral) from a point on M&NP's mainline near Stellarton, Nova Scotia to a delivery point in the Halifax Regional Municipality (HRM). M&NP also applied under Part IV of the NEB Act for an order pursuant to the M&NP Lateral Policy, attached as Appendix III, confirming that no customer contribution-in-aid of construction is required and that the full cost of service for the Halifax Lateral be included in the calculation of M&NP's tolls.

As shown in Figure 1-1, the Halifax Lateral would consist of approximately 124 km of 323.9 mm outside diameter (NPS 12) pipeline starting from a point near Stellarton on the M&NP mainline to the delivery point at the Tufts Cove generating station in the HRM. It would also include associated metering, control and pressure regulation facilities.

The Board held a public hearing to consider M&NP's Halifax Lateral Application in Halifax from 10 May to 17 May 1999.

1.2 Environmental Assessment

On 27 May 1998, the Board delegated the preparation of the Comprehensive Study Report (CSR), an environmental assessment of the Halifax Lateral, to M&NP pursuant to section 17 of the *Canadian Environmental Assessment Act*² (CEAA). On 3 March 1999, the Board, on behalf of the responsible authorities under the CEAA (the Board and the Department of Fisheries and Oceans Canada (DFO)), forwarded the CSR to the Minister of Environment and the Canadian Environmental Assessment Agency (Agency). A public comment process to allow the public to consider and provide comments on the CSR was established by the Agency. This process concluded on 12 April 1999.

Under the CEAA, an environmental assessment is to include a consideration of the environmental effects of the proposal on the current use of lands and resources by aboriginal persons for traditional purposes. On 9 April 1999 M&NP forwarded a Traditional Ecological Knowledge Study (TEK Study) to the Board, DFO, and the Agency, which was not included in its CSR. In its covering letter, M&NP advised that the TEK Study had been commissioned to complete its assessment of the potential effects of the Halifax Lateral on the current use of the lands and resources by aboriginal persons for traditional

¹ R.S.C. 1985, c. N-7

² S.C. 1992, c. 37

purposes. There also appeared to be some inconsistency in terminology used in the TEK Study. After M&NP released the TEK Study, the Board was unable to ascertain whether this new information affected M&NP's original assessment of this factor. By letter of 23 April 1999, the Board revoked its delegation of the preparation of the CSR to M&NP and decided to complete the CSR following the NEB hearing process.

The Board completed the CSR for the Halifax Lateral in order to satisfy the requirements of the CEAA and also pursuant to its responsibilities under section 52 of the NEB Act relating to environmental matters. The Board CSR took into consideration comments from the public, as well as advice from DFO and specialist advice from Environment Canada.

The CSR described the project, the environmental assessment process, the potential environmental effects, the assessment methodology, mitigative measures, and the criteria used in evaluating the significance of the environmental effects. Conclusions and recommendations regarding the significance of the proposal's potential adverse environmental effects were provided throughout the Board CSR.

Both the Board and DFO concluded that the Halifax Lateral is not likely to cause significant adverse environmental effects provided that the mitigative measures and undertakings committed to by M&NP are implemented together with the 21 recommendations contained in the Board CSR.

The Agency facilitated a public comment process on the final CSR between 12 August and 11 September 1999. Following receipt of comments, the CSR was forwarded to the Minister of the Environment for a decision on the course of action to be taken under section 23 of the CEAA. The Board's decision on M&NP's certificate application was reserved pending that determination.

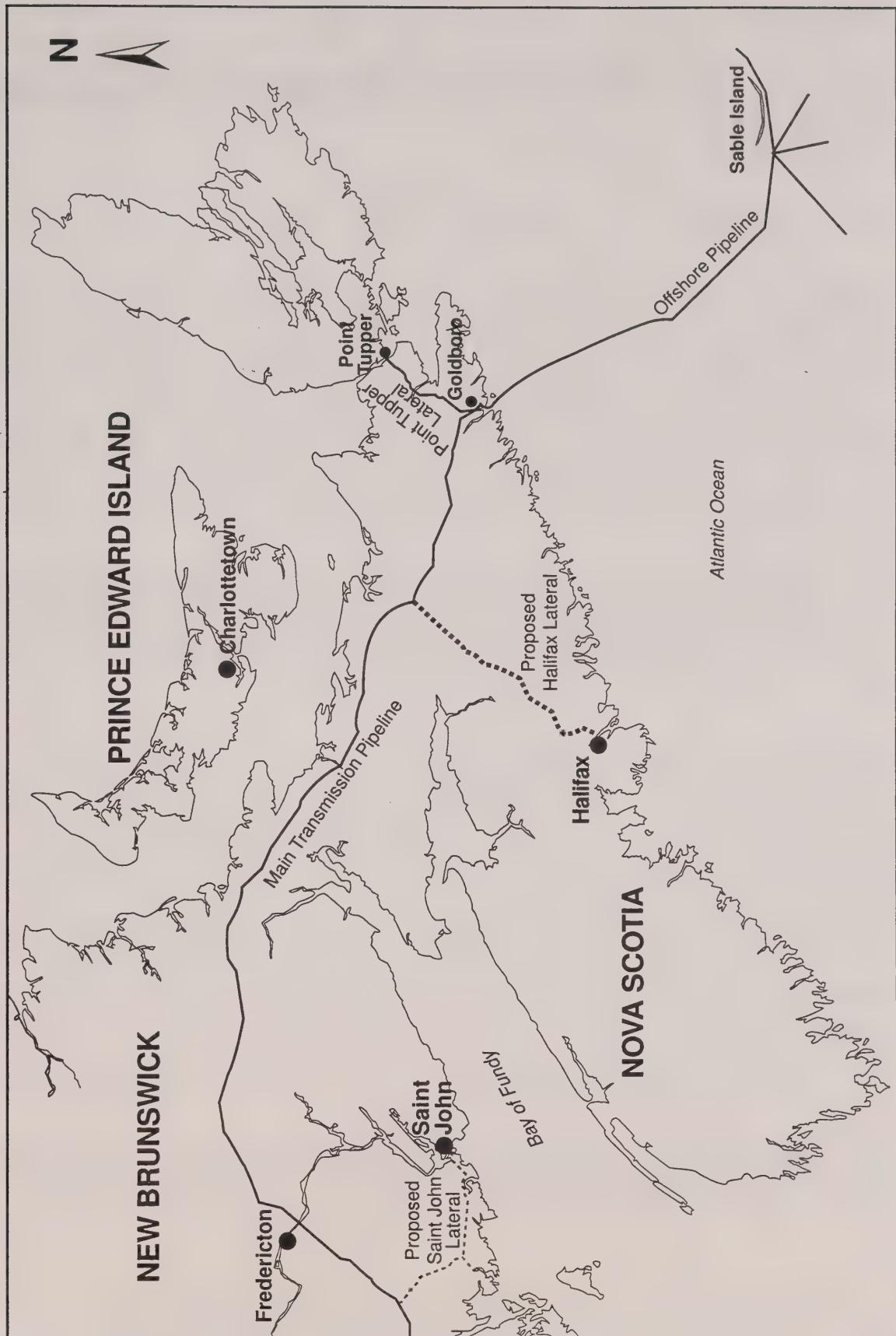
Having taken into consideration the CSR, public comments filed pursuant to subsection 22(2) of the CEAA and the Agency's recommendations, the Minister of the Environment concluded that the Halifax Lateral Project is not likely to cause significant adverse environmental effects. As a result, the Minister of the Environment referred M&NP's proposed Halifax Lateral Project back to the Board and DFO for action under subsection 37(1) of the CEAA.

Views of the Board

Upon receipt of the referral from the Minister of the Environment, the Board has considered the CSR and is of the view that, with the implementation of M&NP's proposed mitigative measures and the recommendations set forth in the CSR, the Halifax Lateral Project is not likely to cause significant adverse environmental effects. In this regard, the Board will incorporate all recommended conditions as described in the CSR into any certificate issued to M&NP for the Halifax Lateral.

The 21 recommendations contained in Chapter 7 of the CSR (and which appear in Appendix II of these Reasons as certificate conditions) describe the procedures that would be put in place to inspect, monitor and follow up on environmental issues relevant to the project should a certificate be issued. It should be noted that the Board will carry out its own inspections and audits in accordance with the relevant legislation and conditions of approval to ensure further protection of the environment.

Figure 1-1
Routes for M&NP's Facilities



Chapter 2

Gas Supply, Transportation, Markets and Economic Feasibility

2.1 Gas Supply

The natural gas to be transported to customers supplied by the Halifax Lateral will be produced from reserves in the Scotian Shelf located near Sable Island offshore Nova Scotia. During the GH-6-96 proceeding, the Sable Offshore Energy Project (SOEP) estimated that the total gas resources for the Scotian Shelf were approximately $512 \text{ } 10^9 \text{ m}^3$ (18.1 Tcf). At that same proceeding, it was determined that the first year daily average deliverability would be approximately $13.0 \text{ } 10^6 \text{ m}^3/\text{d}$ (506 400 GJ/d or 480,000 MMBtu/d)¹. In its Halifax Lateral application, M&NP relied upon the findings of the NEB, the Joint Review Panel (JRP), the Commissioner for the SOEP and the Canada-Nova Scotia Offshore Petroleum Board, all of whom concluded that adequate gas supply was available to support the respective SOEP and M&NP applications in the GH-6-96 proceeding.

The JRP concluded that the proponents had used reliable sources for their resource estimates and that a consensus exists among the different government departments and agencies that gas supply is adequate. The JRP also concluded that M&NP had demonstrated sufficient gas reserves and production to support its proposal. Based upon those findings, M&NP submitted that it was unnecessary to review detailed evidence with respect to overall gas supply in the current proceeding.

With respect to project-specific gas supply, M&NP submitted that Nova Scotia Power Inc. (NSPI) has concluded an agreement with Shell Canada Resources Limited (Shell) that supports NSPI's recently executed Firm Service Agreement (FSA). Shell has executed a firm gas supply agreement with NSPI under which it is obligated to supply 65 000 GJ/d (61,600 MMBtu/d) for a ten-year term. NSPI advised M&NP that Shell has a right to 31.3 percent of the initial Sable Offshore Energy Inc. offshore production which significantly exceeds the volumes which are the subject of the NSPI agreement. While its contract with Shell is only for ten years, NSPI indicated that it fully anticipates using natural gas at its Tufts Cove generating station for in excess of 20 years and that the converted units at the generating station would have a useful life of a minimum of 20 years. Furthermore, NSPI stated that within ten years it will require additional capacity to meet new load, and Tufts Cove is the preferred location for new generation.

2.2 Transportation Arrangements

The Certificates of Public Convenience and Necessity issued to SOEP and M&NP pursuant to the GH-6-96 proceeding provide the necessary approvals for SOEP and M&NP to construct and operate the upstream facilities that will supply gas and transportation to the Halifax Lateral.

¹ To convert MMBtu to GJ, multiply by 1.055; to convert GJ to 10^3 m^3 , divide by 38.86

M&NP has entered into two FSAs with NSPI for natural gas transportation service for a term of ten years following commencement of service. The FSAs with NSPI are summarized in Table 2-1. Under the FSA for 17 500 GJ/d (16,600 MMBtu/d), NSPI has the option to change its primary delivery point, subject to M&NP securing an equivalent replacement volume on the Halifax Lateral for any volume change.

Table 2-1
Firm Service Agreements

Customer Name	Market to be Served	Volume ¹	Contracted Service	Term	Type of Agreement
NSPI	Generating Station	47 500 GJ/d (45,000 MMBtu/d)	MN365 (100% Load Factor)	10 years	Firm Service Agreement
NSPI	Generating Station	17 500 GJ/d (16,600 MMBtu/d)	MN365 (100% Load Factor)	10 years	Firm Service Agreement

1 Both quantities are specified in the FSAs with the primary units being GJ/d.

NSPI is responsible for constructing any downstream take-away facilities to accept natural gas and for the contracting of natural gas supply detailed above. Pipeline fuel requirements will be negligible as there is no compression on either M&NP's mainline Canadian pipeline facilities or the Halifax Lateral.

2.3 Markets

The market that underpins the proposed pipeline consists of NSPI's Tufts Cove generating station. A capital expenditure of about \$23.8 million will add gas firing capability to the boiler units at the station. Upon completion of construction, all three boilers at the Tufts Cove station will have the capability of using either natural gas or No. 6 fuel oil. On 21 April 1999, NSPI received regulatory approvals from the Nova Scotia Utility and Review Board (NSURB) to proceed with this work.

In addition, M&NP anticipates that further markets will develop upon the establishment of a local distribution system for natural gas. It is expected that a local distribution company (LDC) franchise for Nova Scotia will be awarded in 1999 pursuant to provincial legislation enacted in September 1997 (*Gas Distribution Act*). The purpose of the *Gas Distribution Act* is to provide a framework for the orderly development and operation of a gas delivery system in Nova Scotia, and to allow for fair competition in the sale of gas for consumption in Nova Scotia.

At the time of the NEB hearing, the NSURB was in the process of conducting proceedings to select the successful applicant to hold the LDC franchise within the province. Two intervenors in the NEB hearing, Maritimes NRG (Nova Scotia) Limited (Maritimes NRG) and Sempra Atlantic Gas Incorporated (Sempra), are applicants in the NSURB hearings.

The Board heard evidence on the potential market to be served by the Halifax Lateral. Based on its expectation that distribution franchises will be awarded, M&NP developed a forecast of future market

growth for the area that could be served by the Halifax Lateral as part of an overall assessment of potential gas markets for Nova Scotia. Certain assumptions were made regarding usage, conversion, development and market penetration¹ in order to arrive at an ultimate measure of the market.

M&NP submitted a demand forecast for all market areas to be served by the Halifax Lateral for years 1, 3, 5, 10 and 15 of the project. M&NP's forecast was the most conservative submitted, projecting an average demand of 42 158 GJ/d (39,960 MMBtu/d) by year 10 of the project. M&NP noted that its forecast compares well with more recent forecasts undertaken by the Nova Scotia LDC proponents.

Both Maritimes NRG and Sempra submitted forecasts of the potential markets to be served by the Halifax Lateral. These forecasts included market growth predictions of both average day demand and peak day demand. These intervenors had more optimistic forecasts of the potential market than M&NP. By year 10 of the project, Maritimes NRG forecast an average demand of 47 469 GJ/d (44,994 MMBtu/d) while Sempra forecast an average demand of 59 644 GJ/d (56,535 MMBtu/d).

The Province of New Brunswick (New Brunswick) argued that no one could predict whether gas will be able to compete with other energy sources over the next 20 years to ensure that the proposed facilities will be used economically. New Brunswick viewed with scepticism the core market forecasts put forward by other parties, particularly because these forecasts were not supported by contracts.

2.4 Economic Feasibility

Irving Oil Limited (Irving Oil), Maritimes NRG and the HRM all argued that the proposed project met the Board's test of economic feasibility. In support of their positions, the HRM and Maritimes NRG submitted that the existence of the NSPI contracts and the enduring market that the Tufts Cove plant represents both point to the fact that the project meets the test.

Views of the Board

The Board evaluates the economic feasibility of gas pipeline facilities by determining the likelihood of the facilities being used at a reasonable level over their economic life and the likelihood of the demand charges being paid.

A determination of economic feasibility normally includes, among other factors, the availability of long-term gas supply, the long-term outlook for gas demand in the markets to be served and the contractual commitments underpinning the proposal.

The evidence on supply and transportation was uncontested by intervenors. The evidence on markets was the subject of some debate. M&NP, Sempra and Maritimes NRG used slightly different assumptions, obtained different results and expressed different views on their market forecast. The Board considers the results of these three independent forecasts as a reliable range within which the actual markets to be served by the Halifax Lateral are the most likely to grow. This growth is clearly contingent upon

¹ Market penetration refers to the proportion of residences that have access to natural gas service whereas acquisition rate refers to the proportion of residences that actually convert to natural gas service.

the pace and extent of development of the local distribution company franchise. The evidence clearly shows that such a development will take place. Therefore, the Board is satisfied that the evidence on markets and the existing FSAs are sufficient to meet the markets component of section 52 of the NEB Act.

Considering the evidence submitted on supply, transportation arrangements and markets, the Board finds that M&NP has met the Board's test of economic feasibility. There is a strong likelihood that the proposed facilities will be used at a reasonable level over their economic life and that the demand charges will be paid. Therefore, the Board is satisfied that, having had regard to all relevant considerations, the Halifax Lateral is and will be required by the present and future public convenience and necessity.

Chapter 3

Facilities and Pipeline Safety

3.1 Facilities Description

The 124 km NPS 12 Halifax Lateral will have sectionalizing block valves and blowdown facilities at the connection with the M&NP mainline, at three intermediate sites, at the pressure regulating station located near kilometre post (KP) 118 and at the pressure regulating/custody transfer metering facilities located at the Tufts Cove generating station site near KP 124. The pipeline between KP 0 and KP 118 will be designed to accommodate an operating pressure of up to 9 930 kPa (1440 psi) and the section between KP 118 and KP 124 will be designed to accommodate an operating pressure of up to 3 450 kPa (500 psi). The pressure regulating station at KP 118 will also be equipped with odourant injection facilities. Pig launcher/receiver traps will be installed at the block valve sites near KP 0 and KP 118. The pipeline stations at KP 118 and KP 124 will be configured and equipped so that portable pig traps may be employed to service that section of the lateral. The estimated capital cost of the proposed project is approximately \$78 million. (See Table 3-1 for a breakdown of these costs.)

Table 3-1
Halifax Lateral Pipeline Estimated Capital Cost

Description	\$ 000
Pipe and Coating	8,000
Valves and Fittings	708
Miscellaneous Materials	462
Station Materials	811
Stores Overhead	49
Subtotal Materials	\$ 10,030
Prime Contract	35,165
Stations Contract	954
Ancillary Contracts	1,665
Subtotal Contracts	\$ 37,784
Engineering and Development Costs	15,663
Lands	3,145
Subtotal Engineering & Lands	\$ 18,808
Contingency	6,235
Financing	199
AFUDC	4,733
Subtotal Miscellaneous	\$ 11,167
Total	\$ 77,789

3.2 Appropriateness of the Design

Of the $3\ 315\ 10^3\text{m}^3/\text{d}$ (128 822 GJ/d or 122,100 MMBtu/d) of design capacity for the proposed Halifax Lateral, M&NP has obtained commitments from NSPI for 65 000 GJ/d (61,600 MMBtu/d) for a ten year period. This design provides over 63 822 GJ/d (60,500 MMBtu/d) of firm surplus capacity which would be available to serve other markets which are expected to develop in the Halifax area and western Nova Scotia.

M&NP's proposed design of the Halifax Lateral was examined during the course of the hearing. A number of pipe size scenarios, configurations and cost estimates were developed by M&NP during its design optimization process. M&NP also tested other scenarios proposed by intervenors during the course of the proceeding to examine the availability of surplus capacity to serve future market growth. The issue was scrutinized from two viewpoints. One view was that M&NP's design was excessive given that only 50 percent of the capacity has been contracted for ten years while the other view was that the design capacity was insufficient given that a new distribution network is likely to be developed in the foreseeable future.

During the course of the hearing, parties debated whether or not the Halifax Lateral should be sized to accommodate any or all of the peak day demand loads. Peaking service is a significant factor in the design and operation of distribution systems where a high proportion of the residential, commercial and industrial customer base has space heating as its primary energy requirement. The Board heard that the peak daily load is expected to be in the range of 2.5 times the average daily load for the Halifax distribution area.

Sempra maintained that the Halifax Lateral should be sized to meet forecast peak day demand requirements. However, M&NP argued that the Halifax Lateral has been designed as a gas transmission system and is not intended to provide services such as those provided by a local distribution system. M&NP maintained that managing peak day demand is within the realm of distribution system design and that using transmission surplus capacity is only one of the options available to an LDC to meet its peak demand requirements. The debate revealed that other distribution networks employ a number of other solutions to meet their peak day requirements. Some of these solutions include contractual arrangements such as interruptible service for customers that can switch fuel sources for their energy requirements. In this case, NSPI testified that it will retain dual fuel capability at the Tufts Cove generating station and that it would be willing to sell gas to other customers depending on market conditions. Therefore, one possibility is that some or all of its 65 000 GJ/d (61,600 MMBtu/d) could be available for peak day service. In systems in other regions of the country, physical solutions such as underground storage or construction of a liquified natural gas storage facility have been employed to meet the peak day requirements. However, the viability of these solutions was not explored in any detail within the hearing.

M&NP submitted that if market demand were to exceed the Halifax Lateral capacity at some point in the future, the pipeline could easily be expanded in increments to meet that demand through looping or the addition of compression. M&NP maintained that its proposed pipeline design was an appropriate balance between anticipating the near-term market development and avoiding an uneconomic pre-build for as yet undetermined long-term markets.

Views of the Board

In the GH-4-98 Reasons for Decision, the Board set down certain general principles with respect to pipeline design as follows:

An appropriate pipeline design must take into account a range of technical and non-technical factors, including the required design capacity. This capacity is selected based on present incremental market requirements as well as reasonably anticipated market growth. In general, the greatest efficiencies in pipeline design can be realized when pipeline capacity is determined to meet the specific and known needs of the market it is intended to serve. Long-term or unknown needs can be accommodated through design criteria that ensure that the pipeline can be easily reconfigured or expanded at such time as future requirements are ascertainable. Once a design capacity has been selected, the specific design of the facilities can be determined.

The Board considers precedent agreements and firm service agreements as the best evidence that a proposed facility will be used. In this case, M&NP has entered into a firm service agreement with NSPI for 65 000 GJ/d (61,600 MMBtu/d) for a ten year period. Although M&NP could have provided this service with a smaller 273.1 mm outside diameter (NPS 10) pipeline with 84 405 GJ/d (80,000 MMBtu/d) of capacity, there would have been little reserve capacity to serve new markets with such a design.

In these proceedings, the Board heard evidence that there will be a new distribution market developing in the area served by the Halifax Lateral within the foreseeable future. The Board is convinced that such a market is likely to develop with the installation of a distribution network and therefore the design of the pipeline should also include the capacity required to serve the new prospective market. It is also evident that there are, however, a number of uncertainties surrounding the timing of the development of the distribution markets and the transmission line capacity that will be required to serve that market.

A lack of certainty was seen in the actions of NSPI which chose an initial term of ten years to meet its capacity requirements. NSPI indicated that one of the reasons that it did not pursue a longer term was the uncertainty associated with the future direction of electricity regulation within the province. This clearly shows that it plans to re-evaluate its needs at the end of the ten-year term and may or may not renew its contract at that time. If NSPI did not renew its contract, then 65 000 GJ/d (61,600 MMBtu/d) would become available for the markets served by a local distribution company.

On the other hand, if both the distribution market and the NSPI market were to develop beyond the capacity of the current design, then it would be possible at that time to examine an expansion of the lateral. Any such expansion could be designed and built in a way which could meet the specific needs of the market at that time. With the

uncertainties inherent in a greenfield pipeline situation, simply oversizing the pipe at this time might result in a less economically efficient pipeline.

With respect to requests by intervenors to order M&NP to design the pipeline to meet potential peak day demands rather than average day demands, the Board notes that the Halifax Lateral would offer services as a transmission line as opposed to those offered by a distribution system. As the distribution facilities and markets evolve, the Board expects that a number of methods will be developed to meet the fluctuating demands of a distribution network. NSPI has already indicated a willingness to sell gas to a distributor. In the future, industrial and some commercial or institutional customers will likely provide similar backup supply. The potential for backhauls will exist as M&NP's entire system becomes operational. These types of arrangements, which are commonplace in other distribution situations, would result in greater efficiencies than would be the case if the upstream transmission pipeline is required to build excess capacity to meet peak demand. Accordingly, the Board is not convinced that this case warrants a departure from the proposed design basis.

With due consideration of the uncertain nature of the requirements of the markets to be served by the Halifax Lateral beyond ten years and the various market solutions that may be developed to meet peaking requirements, the Board is not convinced that the size of the Halifax Lateral should be increased beyond what is proposed by M&NP. The Board is of the opinion that the proposed NPS 12 design will meet the current firm requirements and the reasonably anticipated market growth for the pipeline and is, therefore, appropriate.

3.3 Safety of Design and Operation

M&NP submitted that the applied-for facilities will be designed, constructed and operated in accordance with the NEB's *Onshore Pipeline Regulations*¹ (OPR) which specify that the design, installation, testing and operation of a pipeline must be in accordance with the applicable provisions of the Canadian Standards Association standard Z662-96, *Oil and Gas Pipeline Systems* and all the applicable standards, specifications and codes that are incorporated by reference in that standard. M&NP has also committed to comply with other federal, provincial and municipal codes and regulations where applicable.

M&NP will implement a quality assurance program which will include procedures to ensure that materials and fabrications are in compliance with all applicable regulations, standards and specifications. The program includes verification and audit programs for vendor qualification, fabrication facilities, vendor performance and records management, and traceability for the pre-production, production and materials receiving stages of the project.

During the course of the hearing, M&NP indicated that the preferred route passes within 12 m of an industrial gas facility. M&NP agreed to conduct a risk assessment of that area to ensure that no

¹ SOR/89-303

unidentified safety hazards are present and, where appropriate, to identify and implement mitigative measures to minimize the risk.

Views of the Board

The Board is satisfied that the proposed facilities would meet widely accepted standards, including the Board's OPR, for design, construction, testing and operation. The Board's new *Onshore Pipeline Regulations, 1999*¹ came into effect on 1 August 1999, and the Board will require full compliance with these new regulations.

The Board will condition any certificate to ensure that a proper risk assessment is conducted where the pipeline passes near the industrial gas facility or any other industrial facility or operation that could represent a safety hazard. The Board will require that the company conduct a review of all uses along the pipeline right-of-way to establish whether there are any other potentially hazardous operations or facilities sufficiently close to the proposed pipeline to affect or be affected by the pipeline in the event of a malfunction or accident.

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SOR/99-294

Chapter 4

Socio-Economic Matters, Public Consultation and Routing and Land Matters

4.1 Socio-Economic Matters

4.1.1 General

M&NP identified a number of key socio-economic issues as a result of its public consultation program. Certain of these issues were assessed as Valued Socio-Economic Components (VSECs) in M&NP's CSR and application. The VSECs, related to environmental change, include loss of production from arable land during construction, ongoing losses of forest resources, effects on non-renewable resources, unwanted access to remote areas and effects on tourism and recreation, including hunting and fishing and proximity to camps. These matters were examined in the Board CSR, and the conclusion reached was that significant adverse effects are unlikely with M&NP's proposed planning and mitigation.

M&NP identified several other direct socio-economic issues that could arise from the project. These include impacts on local services, emergency services, local traffic and economic benefits.

4.1.2 Local Services

The potential project impact on local services largely relates to supply-demand imbalances for commercial accommodation which in turn could affect local tourism. M&NP maintained that accommodation should not be a problem due to existing vacancies in commercial accommodations and the anticipated high proportion of local workers who could commute to work sites from their current residences. The forecast is that, of the 500 person peak workforce, 50 workers will seek trailer camp sites and a further 170 may require fixed roof accommodations. Moreover, M&NP has undertaken to encourage local accommodation suppliers to plan for the heightened business and to register their services at Business and Employment Opportunities Open Houses held in communities close to the preferred right-of-way.

4.1.3 Emergency Services

The availability of medical and emergency services was a potential concern. M&NP examined the availability of medical services and found that major hospitals, located in Stellarton, Truro and Halifax, are within one hour of the preferred pipeline route at the most. As well, air ambulance services are located in the HRM. Moreover, contractors would maintain ambulances and trained personnel on site during construction, which would reduce or avoid demands on local medical services.

Municipal and volunteer fire service providers indicated to M&NP a perceived need for special training to deal with potential pipeline emergencies. M&NP noted that it is working collaboratively with emergency response agencies and would develop fire prevention procedures and training, contingency and emergency response plans in coordination with provincial and municipal firefighting forces. M&NP

will file an Emergency Response Plan with interested parties to ensure coordinated planning. M&NP also stated that its construction contractors have a vital interest in training their employees on fire response and would maintain a complement of fire suppression equipment during the construction phase.

Based on the above mitigative measures, M&NP concluded that no negative impacts on emergency services are expected.

4.1.4 Local Traffic

Traffic congestion and safety were seen as potential issues during construction. M&NP committed to carry out a number of measures to avoid problems and mitigate adverse effects. These measures include:

- preparing detailed assessments of local traffic conditions prior to construction
- selecting marshalling and stockpile sites with consideration to road and traffic conditions
- installing signage to alert drivers to traffic conditions
- repairing any physical damage to roads
- scheduling project traffic to avoid peak periods and bottlenecks
- bussing workers in a reverse flow to normal traffic patterns
- scheduling urban street crossings for non-peak periods

M&NP sees traffic issues as generally manageable with effective planning and believes there should be no negative impacts given the proposed mitigative measures.

4.1.5 Economic Benefits

A key issue is the extent to which the province and affected local communities could benefit from project employment and procurement activities. At a general level, M&NP stated that it would follow a policy of full and fair access to project economic opportunities for local labour and contractors. To this end, local participation would be promoted through measures such as Business and Employment Opportunities Open Houses and a registration system for potential contractors. The forecast is that 56 percent of all project expenditures would be made in Nova Scotia and 72 percent of the approximately 500 person construction phase labour force would be Nova Scotians. To date, firms in the Maritimes have been awarded contracts for environmental, socio-economic, surveying, engineering, geotechnical and legal services.

At the operations stage, annual expenditures are anticipated to be \$236,000. The four operational staff responsible for the mainline in Nova Scotia would also operate the Halifax Lateral. M&NP also reiterated its position, taken at the SOEP GH-6-96 hearing, that the natural gas pipelines would be a catalyst for further development. There was support for this position from a number of interested parties and in particular from the HRM.

The Assembly of Nova Scotia Mi'kmaq Chiefs (Assembly) raised the issue of Aboriginal participation in the economic benefits of the project and, in particular, the desire for enhanced access to jobs. The Assembly made four recommendations:

- access to documentation on the project to help prepare for labour market possibilities
- provision of advice and information regarding the procurement and hiring process

- training and employment opportunities to be directed to the Confederacy of Mainland Mi'kmaq (CMM) and the Union of Nova Scotia Indians and through forums such as the Nova Scotia Tripartite Process
- assurances by government and M&NP that the policies of Aboriginal procurement and employment equity will be upheld

During the hearing, the Assembly stated that it had received information about training and employment opportunities for the mainline project up to December 1998 but was not aware of whether or not such information had been received for the Halifax Lateral. It also stated that there had been no contact with the CMM on training and employment opportunities. The Assembly requested that there be mutually-agreed targets for Aboriginal hiring and set-asides. The set-aside concept involves reserving certain contracts exclusively for Aboriginal contractors.

M&NP maintained that it had addressed these economic recommendations through providing the Assembly with its socio-economic impact study, offering to arrange a workshop on potential opportunities and instituting its Aboriginal Contracting Strategy (ACS) which includes the concept of set-asides. M&NP indicated that the ACS applies to all Aboriginal peoples and that Aboriginal groups other than those groups represented by the Assembly had benefited from the ACS. M&NP stated that it would comply with the intent of its 9 June 1998 draft agreement (Draft 3.0) in which a number of commitments, set out in section 4.3 of that draft, were given to promote economic opportunities and benefits from the project for the Aboriginal community.

M&NP believes that, with effective planning, there will be no negative effects and that its planning should enhance the availability of local benefits.

Views of the Board

The Board concludes that there is unlikely to be negative impacts on local services, particularly accommodations for tourists, given the number of project workers and the availability of local services. Furthermore, the project would largely be constructed over the three summer months and thus any potential negative socio-economic impacts would be short-term and reversible.

M&NP has appropriately identified potential emergency services issues related to the project and has committed to address the issues through planning, training, the provision of services by construction contractors and coordination and cooperation with local emergency service providers. The Board concludes that, with these measures, any negative socio-economic impacts on emergency services would be unlikely.

The Board is satisfied that, with M&NP's proposed mitigation measures, any adverse local traffic impacts should be insignificant and temporary. Moreover, traffic studies for selecting marshalling and stockpiling sites need to be undertaken well in advance of construction.

The Board shares the view of M&NP that the main economic benefits from the project are the benefits of having access to a new energy source. These benefits will only be realized over the long term. While the construction phase benefits are not large, they are

also not insignificant, particularly given that Nova Scotians are forecast to obtain 72 percent of the available jobs. Moreover, there are potential spinoffs for local workers and contractors from gaining pipeline experience and thus a higher likelihood of future pipeline work on laterals or local distribution systems in the Maritimes. The Board is satisfied with M&NP's general benefits policies.

With respect to employment and contracting opportunities and benefits for Mi'kmaq people, the Board appreciates the Assembly's concerns. The Board believes that fair access to economic opportunities will extend to Aboriginal peoples in the project area through fulfilment by M&NP of its commitments on these matters. The policies and commitments of M&NP address the Assembly's recommendations and the issues of other Aboriginal groups. M&NP is expected to abide by the commitments set out in section 4.3 of the 9 June 1998 draft agreement until a final agreement is reached between the parties or a protocol is approved by the Board.

4.2 Public Consultation

4.2.1 Early Public Notification

M&NP submitted that it conducted an extensive Early Public Notification (EPN) program for the proposed Halifax Lateral. The purpose of the EPN program which is required under the Board's *Guidelines for Filing Requirements* (GFR), is to inform the public about the project, to seek public input into the route selection, environmental assessment and socio-economic impact assessment, to identify issues and concerns of those potentially affected by the project and to resolve issues. M&NP committed itself to early, frequent and meaningful consultation that would be ongoing from the initial development phase of the project through to post-construction monitoring, operation and maintenance.

M&NP's consultation techniques included a series of public open house meetings, video presentations, backgrounder information sheets provided to the public, landowner consultation packages, newspaper and other media advertisements, questionnaires and a toll free telephone line. M&NP identified several stakeholders to the project including directly affected landowners, federal, provincial and municipal government agencies, First Nations, local businesses, environmental groups, community groups and adjacent landowners. M&NP stated that approximately 3,400 people in Nova Scotia were contacted through all phases of the consultation process for the project.

M&NP stated that all issues raised during its consultations either have been or will be fully addressed. The common concerns and issues raised by the public included the route selection process, pipeline safety, construction methods, potential environmental effects, compensation, project benefits and economic opportunities. M&NP stated that the input received from the public, stakeholders and government agencies had considerable influence on the location of its preferred right-of-way and the project design. In several instances, adjustments were made to the originally contemplated corridor and preferred right-of-way.

M&NP described its commitment to use its Landowner Consultation Program, developed for its mainline, for the Halifax Lateral. Part of this program includes a Letter of Commitments (LOC) that will be provided to the directly affected landowners along the Halifax Lateral. The purpose of the LOC is to

identify issues of concern, promote mutually acceptable solutions, provide advance notice of construction activities and monitor M&NP's responses to ensure timely resolution of issues.

4.2.2 Aboriginal Consultation

During the hearing, fundamental differences of opinion were evident in the Assembly's and M&NP's views concerning the extent and adequacy of consultation between the two parties and the appropriate matters for inclusion in any protocol or agreement.

The Assembly identified three main issues with respect to the Halifax Lateral that were of concern to the Mi'kmaq. These included the Traditional Ecological Knowledge Study (TEK Study), the Environmental Protection Plan and the Protocol.

With respect to the TEK Study, the Assembly expressed the view that there was inadequate time set aside for the gathering of information and the preparation of the report and that the findings in the Study were suspect. As a result, the Assembly argued that there was inadequate consultation with the Mi'kmaq throughout the planning and design phases of the TEK Study. According to the Assembly, these problems with the TEK Study also called into question the mitigative measures outlined in the environmental protection plan.

The Assembly did not accept any consultation arrangement for M&NP-Assembly relations that was not mutually agreed to. Its specific concerns with M&NP's written protocol in relation to the Halifax lateral were that the protocol:

- did not address questions of Aboriginal title and treaty rights
- promoted an approach to Aboriginal participation in decision making based solely on consulting, informing and allowing input, and not on mutual consent as the Assembly desired
- offered insufficient guarantees of Mi'kmaq employment and business opportunities
- was generic and not specific to the Halifax Lateral
- excluded right-of-way rehabilitation and monitoring of traditional-use areas from the protocol
- contained no process of ultimate compensation for affected traditional uses

The Assembly did not agree with M&NP's position that the Mainline Protocol should be applied to the Halifax Lateral. The Assembly submitted that the Protocol did not achieve its intended purpose and did not provide for the type of consultations that the Mi'kmaq wanted. The Protocol does not provide for actual input from the Mi'kmaq at the beginning of the project but simply allows for comment on decisions that M&NP made or proposed to make. The Assembly submitted that it wants to have actual input into the decision-making regarding what takes place in traditional use areas and archaeological and sacred sites along the pipeline right-of-way.

The Assembly sees consultation on land rights as an integral and crucial element of the consultation process and wanted to be involved in scoping how the lands rights issue fits within the project. The Assembly also wished to know the extent of M&NP's consultation on land rights matters with government agencies and departments.

M&NP noted that consultation involves communicating with various parties to ensure that the project and its effects are understood and then conversing to identify, address and respond to issues. M&NP

stated that it recognizes and respects the rights of First Nations and that it has been responsible and responsive in both communicating and consulting with the Aboriginal community in Nova Scotia. In support of this view, M&NP provided an extensive listing of contacts with Aboriginal individuals and organizations during the September 1997 to April 1999 period. M&NP also pointed to its recent consultation with the CMM with respect to archaeological sites at River Phillip and North St. Mary's River on the mainline right-of-way as examples of its commitment to meaningful consultation.

M&NP argued that it has carried out extensive consultations with the First Nations. It stated that it is committed to its Protocol of Commitments and to providing the opportunity for aborigines to have meaningful input into the process. M&NP submitted that the Protocol applies equally to the mainline and the laterals and that the Protocol could be adopted for the Halifax Lateral. The process in the Protocol is reasonably stated and well-directed and achieves its intended purpose of providing ongoing contact and the opportunity to provide input. M&NP submitted that any problems the Assembly has with the Protocol relate more to its application than to the Protocol itself. Finally, M&NP argued that a condition requiring that an agreement be reached with the Assembly would be unworkable. Mediation was used in an attempt to reach an agreement with the Assembly previously and it failed, leading M&NP to resort to a protocol rather than an agreement.

Views of the Board

In its argument, M&NP acknowledged its recognition of the First Nations as a stakeholder with unique perspectives and rights. It submitted that this recognition is embodied in its Protocol of Commitments and its continuing efforts to ensure that First Nations' issues are addressed. It became clear in the hearing that in many respects, the Assembly and M&NP share common ground regarding the main environmental and cultural elements that should be included in any protocol or agreement. There is disagreement, however, on a number of significant matters including whether the mainline Protocol should be applied to the Halifax Lateral, the process for receiving input from the Mi'kmaq, avoidance or mitigation measures to be employed in areas of current use for traditional purposes and the treatment of potential economic benefits. These are difficult matters and may or may not be capable of resolution in the context of a private agreement between M&NP and the Assembly.

The Board is cognizant of the Assembly's concerns with the mainline Protocol. In fact, this matter is presently before the Courts and has strained the relationship between the Assembly and M&NP. In order to re-establish understanding and trust, it is preferable that, rather than relying on the mainline Protocol, M&NP and the Assembly commence discussions with a view to reaching an agreement or developing a new protocol which applies specifically to the Halifax Lateral. The Assembly's witness, Mr. Zscheile, testified that the Assembly had no concerns with the text of quite a number of the provisions in the mainline Protocol but took issue with the application of those provisions. It should therefore be possible for many of the provisions in the mainline Protocol to be used and modified as necessary for an agreement or protocol for the Halifax Lateral.

The Assembly asked the Board to impose conditions on M&NP regarding the terms that must be included in an agreement between M&NP and the Assembly; however, it would be preferable for the parties to work out the terms of the agreement or protocol between themselves. The building of trust and respect between M&NP and the Assembly is more likely to occur if the parties arrive at their own solutions, rather than if the Board imposed conditions on M&NP relating to areas of concern to the Mi'kmaq.

M&NP has expressed its interest in continuing its dialogue with the Aboriginal community in Nova Scotia, and the Board strongly supports such ongoing discussions. It is hoped that both sides will enter these discussions with the goal of achieving a signed agreement between M&NP and the Assembly. Protracted or unproductive discussions could lead to unreasonable delays in the project, and the Board urges the parties to act in a reasonable, diligent and timely fashion in order to develop a mutually acceptable agreement. To this end, it may be advisable for the parties to agree upon mediation or some other form of dispute resolution in order to facilitate an agreement on any outstanding issues.

It may be the case that after a reasonable attempt at negotiations, an agreement between the Assembly and M&NP simply cannot be reached. This outcome would be most unfortunate; however, the Board does not believe that it would be in the public interest for the Halifax Lateral not to proceed on this basis. The Board is therefore not willing to impose a condition on M&NP that an agreement must be reached with the Assembly prior to the commencement of construction. If an agreement cannot be attained, M&NP will be required to submit a Halifax Lateral protocol to the Board for approval prior to the commencement of construction. M&NP will be required to provide bi-weekly reports of the discussions with the Assembly in order to satisfy the Board that reasonable attempts were made to reach an agreement. The Board would invite comments from the Assembly on the summary of discussions and the protocol before reaching a decision on whether or not to approve the protocol.

4.3 Routing and Land Matters

M&NP stated that the route selection process for the Halifax Lateral considered environmental, social, technical and economic factors in order to determine a preferred route that would start at the tie-in point on the mainline and end at the Tufts Cove generating station. Route selection was divided into urban and rural processes having regard for the issues unique to each environment.

4.3.1 Rural Route Selection Process

In its application, M&NP identified a study area for selection of potential corridors for the rural portion of the Halifax Lateral. Within the rural study area, three alternative corridors were identified having regard to the length of each corridor, existing linear development and the constraints identified along each corridor. Table 4-1 provides a comparison of the constraints identified by M&NP for each of the three corridors. M&NP selected Corridor A as its preferred corridor because, on balance, it had the lowest number and area of environmental, socio-economic, engineering and construction constraints of the three corridors evaluated.

M&NP presented its preferred corridor to the public through a series of open houses conducted at four locations during September 1997. Thereafter M&NP conducted a more detailed analysis of its preferred corridor based on the input received from the open houses, data review, additional research and selected field surveys. This additional information provided for more detailed and expanded constraint mapping at a scale of 1:50,000.

M&NP classed the various constraints according to environmental and socio-economic significance and engineering and construction considerations. It determined that Class 1 constraints must be avoided given that mitigation may not be possible; Class 2 constraints should be avoided but could be mitigated; and Class 3 constraints were preferred to be avoided and, if not, may require special construction practices.

Based on a review of the original data and information received as a result of field studies, M&NP made a number of adjustments to its preferred corridor. Adjustments were made to avoid sinkhole geology in the vicinity of Gays River, to avoid a group of unmapped residences located near the community of Goffs, to avoid a residential water supply in the area of the mainline tie-in and to avoid a private recreation park in the area of Lansdowne Station. An additional open house was conducted in October 1997 in Schubenacadie to present the adjusted corridor to the public.

Table 4-1
Comparison of Corridor Constraints

Constraint	Corridor A	Corridor B	Corridor C
Length of corridor including urban portion (km)	121	124	129
Slopes greater than 15° (km traversed)	1.9	4.5	4.9
Shallow bedrock (km traversed)	14.8	7.6	13.3
Potential sinkhole geology (km traversed)	13.2	22.3	14.2
Potential acid generating bedrock (km traversed)	7.5	41.7	7.5
Significant wetlands (number found in corridor)	9	11	9
Residential housing areas (km traversed)	11.1	39.7	11.8
Provincial parks and reserves (number in corridor)	1	1	2
First Nations reserves (number in corridor)	0	0	0
Designated water supply areas (number in corridor)	0	0	1
Airports	1	1	1
Military bases (number in corridor)	0	0	0
Active mine sites (number found in corridor)	no data	no data	1

Once its preferred corridor was determined, M&NP selected a preliminary preferred 20 metre wide right-of-way within the corridor based on constraint mapping, assessment of field data and input received through M&NP's public consultation process. The primary criterion in the selection of the preliminary right-of-way was to consider topographic features while avoiding or minimizing the potential effects of the right-of-way on identified constraints and resources. The right-of-way selection process also considered following existing linear features as much as possible. The resulting preferred right-of-way was detailed in M&NP's Proposed Halifax Lateral Constraint Atlas filed with the Board.

4.3.2 Urban Route Selection Process

M&NP delineated a study area for the urban portion of the Halifax Lateral encompassing an area approximately 15 km wide, bounded on the north by the Miller Lake area and on the south by Tufts Cove. M&NP determined that a corridor width of 100 metres for the urban portion of the Halifax Lateral was appropriate due to the concentration of residences, commercial development, utility and roadway infrastructure and land use conflicts.

Consideration of the urban corridor alternatives was restricted to major existing linear developments such as highways, transmission lines and railway lines. This was required in order to minimize disruption to urban property owners and to reduce potential effects on natural areas and residential, commercial and industrial areas.

Of the three alternative corridors identified for the urban portion of the Halifax Lateral, M&NP determined its Alternative A to be the preferred urban corridor. Alternative A parallels the east side of Highway 118 and then parallels Highway 111 for much of the route. It also follows transmission line rights-of-way and roadways through Burnside Industrial Park, then other roadways to Tufts Cove. Alternative A bypasses difficult terrain, avoids difficult highway crossings and minimizes potential impacts to Class 1 and 2 constraints.

The preferred urban corridor was presented to the public through a series of open houses conducted in Waverley and Dartmouth in October 1997. The urban corridor was further refined as a result of input received through the open houses, information from landowners, aerial and ground reconnaissance, selective field surveys, evaluation of 1:10,000 scale mapping of municipal infrastructure and consideration of all the constraints used for evaluation of the rural corridor. In addition, M&NP evaluated additional constraints that are characteristic to the urban environment. These included road, highway, utility and railway crossings and potentially contaminated sites, as well as provincial and municipal construction restrictions.

Once the preferred urban corridor was selected, M&NP evaluated a preliminary preferred right-of-way within the urban corridor. The preferred right-of-way was selected based on continued analysis of constraint mapping, focussed field surveys and comments from landowners, the public, interested parties and government agencies. The preferred right-of-way was also presented to the public through open houses held in Dartmouth and Waverley in November 1997.

4.3.3 Route Modifications

In February 1999, M&NP submitted its Halifax Lateral Pipeline Project Environmental Report Supplementary Information (Supplementary Report). The Supplementary Report included a description of 29 route modifications that M&NP made to its preferred route since the submission of its Environmental Report in February 1998. The modifications were made as a result of field studies conducted in 1998, engineering studies and discussions held with landowners and government agencies. The modifications resulted in the avoidance of numerous constraints including wetlands, stream crossings, residential areas, potential acid generating bedrock, steep slopes, historical features, deer wintering areas, critical habitat and protected areas. M&NP used the same constraint mapping methodology in evaluating the route modifications it used to establish its original preferred corridor and route.

Three of the route modifications moved the right-of-way outside of the preferred corridor. M&NP stated that these modifications offered significant benefits to the overall pipeline route in the context of environmental, socio-economic, engineering and land use constraints. M&NP provided the Board with revised constraint mapping on 13 May 1999 that showed the revised corridors for the modified routes.

4.3.4 Route Alternative Proposed by the Halifax Regional Municipality

The HRM stated that the Halifax Lateral should allow for gas distribution service over the broader Halifax municipal area. It proposed that the Halifax Lateral should be routed closer to the Bedford Basin such that it would better serve the greater HRM while still terminating at the Tufts Cove generating station. However, the HRM did acknowledge that both LDC proponents have committed to serve the Halifax market area from take-off points along M&NP's preferred route.

The HRM proposed three potential alternate routes for the Halifax Lateral and considered its Option 3 route to be the most viable. The HRM recommended that, if the Board determines that M&NP's proposed route were not acceptable, HRM's proposed Option 3 route would be a viable alternative. However, it acknowledged that its proposed route would require additional study and significant additional time in order to conduct a complete evaluation. It also stated that it supports the Halifax Lateral because it considers natural gas to be a new energy source that would benefit the municipality and provide an environmentally acceptable source of energy for the NSPI Tufts Cove facility.

M&NP evaluated HRM's preferred option for the urban portion of the Halifax Lateral. It discounted the HRM route as a viable alternative because of the increased level of Class 1 and 2 constraints along that route. M&NP was also concerned about the additional time that would be required for a complete evaluation of the route.

Views of the Board

The Board considers the corridor and route selection process undertaken by M&NP for the rural and urban portions of the Halifax Lateral to be appropriate. M&NP's proposed corridor location and the general preferred right-of-way located within the corridor, as well as its modified corridors and modified general route proposed in the Supplementary Report, are acceptable to the Board.

The HRM proposal would encounter more land use conflicts and affect more Class 1 and 2 constraints than the M&NP preferred route. The Board is not convinced that the HRM proposal would result in a better route to Tufts Cove than that preferred by M&NP. The HRM did not dispute the route selection process used by M&NP or M&NP's preferred corridor and route locations. M&NP's proposal does not preclude service to the HRM as the LDC proponents have both committed to serve this market from M&NP's preferred route.

For these reasons, the Board does not consider the HRM's proposed route to be a viable alternative to the M&NP preferred route.

4.4 Land Requirements

M&NP proposed a 20 m wide right-of-way for the majority of the 124 km route of the Halifax Lateral. In certain congested urban areas, the right-of-way width may be reduced to as little as seven metres to accommodate land use constraints. M&NP stated that it was in the process of evaluating the appropriate right-of-way widths for the urban portion of the Halifax Lateral.

M&NP stated that it would require temporary work space where the easement area is insufficient for construction needs. Temporary work space would be required where the pipeline crossed roads, railways and water courses, at directional drilling locations, sharp bend areas, steep slopes and in areas where the right-of-way width is reduced. The additional area is needed for preparation of crossing pipe and stockpiling of grade material and ditch spoil. At crossing locations, temporary work space would typically require an area of 10 m by 20 m on each side of the easement. In other locations, temporary work space dimensions would be selected to suit the construction requirements.

M&NP would acquire land rights in fee simple for the mainline take-off valve site, three intermediate valve sites and the regulating station and an easement and access rights for the customer station.

Views of the Board

The potential impacts of the construction of the pipeline on affected landowners, including the amount of land required for easements and temporary work space, have been considered by the Board. The Board finds that M&NP's anticipated requirements for easements and temporary work space are reasonable and justified in this application.

Chapter 5

Tariff Matters

5.1 M&NP's Lateral Policy

In the GH-6-96 mainline proceedings, the Board approved a postage stamp toll design for the Canadian portion of the M&NP line. The Board determined that the postage stamp toll, set at approximately \$0.57/GJ (\$0.60/MMBtu), struck an appropriate balance between the encouragement of the development of gas markets in Nova Scotia and New Brunswick and the ability of M&NP to remain competitive with other alternatives serving markets in the U.S. Northeast. In the GH-6-96 proceeding, the Board also approved M&NP's "Lateral Policy", which was designed to provide a test for the construction of lateral pipelines to markets within Nova Scotia and New Brunswick. The JRP viewed the postage stamp toll and the Lateral Policy as a package that would furnish a solid economic foundation for the pipeline in its early years and provide the greatest potential for the future development of gas markets in the Maritimes.

In addition to the Lateral Policy, M&NP filed an agreement at the GH-6-96 proceedings entitled "Joint Position on Tolling and Laterals", which had been negotiated between M&NP, SOEP, New Brunswick and Nova Scotia. One of the key provisions of that agreement was a commitment by M&NP to develop work plans for a lateral to Halifax.

Finally, M&NP negotiated a Memorandum of Understanding (MOU) with SOEP, NSPI and the Province of Nova Scotia dated 3 December 1997 in which M&NP committed to construct the Halifax Lateral, provided that NSPI entered into a firm transportation agreement for a daily quantity of at least 47 500 GJ/d (45,000 MMBtu/d) for a period of at least ten years which specifies Tufts Cove as the delivery point¹. In the MOU, M&NP also agreed that it would not require an aid to construct the lateral from NSPI if it entered into a firm service transportation agreement on these terms.

5.2 Application of the Lateral Policy

M&NP asked the Board to confirm that under M&NP's Lateral Policy no contribution-in-aid of construction is required for the Halifax Lateral and that the full cost of service on the lateral be included in the calculation of M&NP's tolls.

The Lateral Policy provides that, subject to certain operating considerations, M&NP will construct facilities to deliver gas to one or more customers without requiring a contribution-in-aid of construction, provided that the contracted demand, based on a test toll of \$0.57/GJ (\$0.60/MMBtu), generates sufficient revenue in each year of its operation to recover the cost of service associated with those facilities. If the cost of the requested facilities cannot be recovered under the test toll, a customer contribution may be required. The amount of the customer contribution is calculated as the net present value of the revenue shortfall over the period of the contract. M&NP may waive the need for a customer

¹ The full text of the MOU is contained in Appendix IV.

contribution if it determines that construction of the facilities would be economic based on various factors that would indicate the existence of an enduring market for the pipeline capacity.

M&NP's application is underpinned by two contracts with NSPI totalling 65 000 GJ/d (61,600 MMBtu/d) for ten years. Using the test toll of \$0.57/GJ (\$0.60/MMBtu), the contracts result in a revenue shortfall in all years and, pursuant to the Lateral Policy, a customer contribution of \$31 million would be required. If it is determined that there is an enduring market for the facilities beyond ten years and, by substituting an amortization period of 25 years, the project meets the Lateral Policy test in all years.

M&NP submitted that the Halifax Lateral will be used at reasonable levels over its economic life and that there is an enduring market to be served by the lateral. It noted the evidence of NSPI that, although it was unable to commit to a longer contract at this time, it expects to renew its contracts beyond ten years and might contract for significant additional volumes. Further, M&NP stated that, in the unlikely event that NSPI did not renew its contracts after ten years, the local distribution market to be developed by the successful LDC applicant would be sufficient to justify the lateral. Both Sempra and Maritimes NRG argued that their market forecasts were evidence of an enduring market to be served by the lateral.

NSPI testified that, while its initial contract is for 65 000 GJ/d (61,600 MMBtu/d) for ten years, the Tufts Cove facility has the capability to burn up to 94 955 GJ/d (90,000 MMBtu/d) and it intends to purchase additional gas. It stated that, because SOEP and M&NP are both greenfield projects and this is NSPI's first gas purchase contract, NSPI believes that ten years is the longest term contract to which it could prudently commit. In cross examination, NSPI confirmed that the ten percent discount available to Nova Scotia, as provided for in the Joint Position on Tolling and Laterals, and the further discount of \$0.065/GJ (\$0.068/MMBtu) available from the Nova Scotia Gas Market Development Initiative both expire in ten years.

M&NP submitted that the NSPI contracted volumes would anchor the lateral for the first ten years; thereafter the market to be developed by the successful LDC, together with NSPI's continuing requirement for gas, will ensure that the test toll under the Lateral Policy would continue to be met. Assuming both the NSPI contracted volumes and the volumes forecast by M&NP to flow to all market areas to be served by the Halifax Lateral, M&NP estimated that a customer contribution of \$2 million would be required.

New Brunswick questioned whether gas could compete in the Halifax market with fuel oil and coal over the next 20 years and noted that the forecast enduring market was unsupported by contracts. In view of these risks, New Brunswick proposed that M&NP's certificate should be conditioned to reduce the risks associated with the waiving of a customer contribution. It suggested that the Board adopt one, or a combination of, the following four possible conditions:

- that M&NP accept the risk of absorbing a significant portion of the \$31 million customer contribution if the forecast enduring market does not materialize;
- that M&NP and NSPI renegotiate their FSAs to result in a 20 year FSA for 65 000 GJ/d (61,600 MMBtu/d), or such other quantity as will significantly reduce the customer contribution calculated under the laterals test;

- that M&NP and NSPI agree to accept some risk by either extending the term of the FSAs or by entering into a backstop-type agreement; or
- that the Nova Scotia government use funding available from the \$18 million Nova Scotia Gas Market Development Initiative, created by the SOEP producers under paragraph 5 of the MOU, to fund a portion of the \$31 million customer contribution.

Irving Oil argued in support of M&NP, noting that in a greenfield situation initial low load factors must be balanced against the likelihood that capacity will precede the development of new markets.

Maritimes NRG argued that NSPI had not asked M&NP to construct a NPS 12 line and a shipper should not be asked to pay an aid-to-construct for facilities beyond those necessary to serve its requested transportation contract.

Views of the Board

The analysis of a request for a waiver of the contribution-in-aid of construction pursuant to the terms of the Lateral Policy must begin with the reasons for which the policy was adopted in the GH-6-96 proceedings and a consideration of how the Lateral Policy differs from the usual situation when extensions to pipelines are proposed. In the case of facilities to be added to an existing pipeline, the Board, prior to allowing a roll-in of costs, has generally required that the applicant establish that the facilities would provide benefits to the existing system and its shippers (such as added reliability). In the absence of such benefits, it is possible that the facilities would be tolled on a stand-alone basis. Some parties in the GH-6-96 proceedings recognized that a strict application of such a policy could inhibit the development of the market in the Maritimes in this greenfield situation. The result was the Lateral Policy which was approved by the Board in its GH-6-96 Reasons for Decision. As discussed in section 5.1 of these Reasons for Decision, the approval of a postage stamp toll and the Lateral Policy in the GH-6-96 proceedings struck an appropriate balance of factors that would, it was hoped, lead to future development of markets in the Maritimes.

The Lateral Policy appears to recognize, however, that there are limits on the extent to which the cost of laterals should be rolled in and paid for equally by all shippers. Otherwise, the costs of any dedicated lateral serving the smallest or least certain markets would be borne by all existing shippers, without conferring any benefits on them. The result could be an inability of the M&NP pipeline to provide a competitive source of gas in some of its markets. This could not have been the intent of the Board in GH-6-96. Accordingly, the Board believes that it must take care in its interpretation of the provisions of the Lateral Policy, particularly insofar as the meaning of "enduring market" is concerned.

In summary, the Lateral Policy is designed to protect the interests of shippers by setting a test toll against which the economics of projects can be measured, while at the same time allowing the pipeline company to give recognition to the existence of uncontracted markets.

In this case, if the Board were to strictly apply the Lateral Policy, using a depreciation rate based on the ten-year term of the NSPI contract¹, a customer contribution of \$31 million would be required. The result could be that the Halifax Lateral is not constructed at this time. Based on the particular circumstances of this case, such a result would be unduly harsh and would likely not be in the public interest. The ability of the Board to exercise its discretion in the area of traffic, tolls and tariffs while, at the same time, giving meaning to the principles underlying the Lateral Policy, allows the Board to examine the possibility of an alternative to a customer contribution in the context of this application.

During the proceedings, NSPI submitted that it expects to renew its contracts, but it was unprepared to commit beyond ten years at this time. The LDC market was demonstrated to have good potential by both M&NP and the LDC proponents, Maritimes NRG and Sempra. However, the ultimate size of that market and the pace of its development have yet to be determined. Nevertheless, it is likely that there will be an additional local market developed by the LDC, and it is therefore unlikely that the existing firm service quantity of 65 000 GJ/d (61,600 MMBtu/d) would disappear after ten years.

The Board has found, in section 2.4 of these Reasons for Decision, that the NSPI contract, combined with the local market to be developed over the life of the project, supported a finding that the facilities would be required by the public convenience and necessity. For purposes of section 52 of the Act, the Board is required to consider and balance a number of factors, of which a long-lasting market is only one. Although the evidence regarding markets remains the same for this toll methodology determination, the use of the evidence and hence the standards required for a reasonable interpretation of the Lateral Policy under Part IV of the Act are different. In this case, the Board is not fully satisfied that the same market evidence, described in Chapter 2, supports a waiver of the required customer contribution as contemplated by clause 17.2 of the Lateral Policy.

M&NP argued that by recognizing the enduring market potential of the lateral beyond the 10 year contract with NSPI, and extending the test period to 25 years, the test toll of \$0.57/GJ (\$0.60/MMBtu) would be met in all years. In the Board's view, the best evidence of an enduring market for the lateral would be contracts of sufficient size and duration to enable the lateral policy test to be met in each year. In the absence of such contracts, the size of the enduring market is less certain. M&NP has indicated that it is confident in the size of the market and has made a business decision to waive the requirement for a customer contribution². Given that M&NP has exercised judgement in waiving the fee, the Board is of the view that it must be prepared to accept the risks associated with that decision.

¹ Lateral Policy, clause 17.1 (a)

² This waiver was consistent with the MOU, an agreement made amongst a limited number of parties. The Board is not bound by that agreement, nor would it be appropriate or necessary for the Board to interpret its provisions.

The Board recognizes M&NP's view that the risk of not recovering its costs is minimal. In fact, if NSPI extended its contract, then M&NP may not be at risk at all. Further, if other customers sign on as forecast by M&NP, then any potential shortfall would be minimized or even eliminated.

As the Board had pointed out in its GH-6-96 decision, the circumstances faced by M&NP are substantially different from those faced by most other pipeline companies regulated by the Board. This is a greenfield project; its only sources of gas are new and untested fields; and it will be serving an untested market in Canada. It was for these reasons that the Board approved a rate of return on equity for M&NP which is higher than the returns currently approved for other large natural gas pipelines regulated by the Board.

Given the potential for an enduring market for the Halifax Lateral, the Board finds that it is reasonable in this case to apply the Lateral Policy test over 25 years. On this basis the project meets the test, and the Board is prepared to accept M&NP's view that no customer contribution is required. However, as it is M&NP's decision to waive the requirement for a customer contribution and to rely instead on the uncontracted market potential, M&NP must accept the risks inherent in this decision. Accordingly, if the Lateral Policy test is not met at any time during the first 25 years of the project, M&NP will be required to absorb any shortfall. M&NP may apply for relief from this condition if new facts or contractual arrangements arise that would merit a review of this decision.

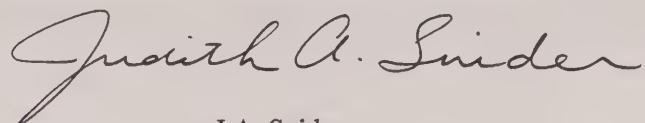
Chapter 6

Disposition

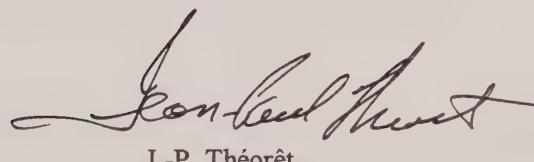
The foregoing chapters constitute our Reasons for Decision in respect of the application heard by the Board in the GH-2-99 proceeding.

The Board is satisfied that the proposed Halifax Lateral Pipeline Project is, and will be, required by the present and future public convenience and necessity, provided that the terms and conditions outlined in Appendix II are met. Therefore, subject to the approval of the Governor in Council, a Certificate of Public Convenience and Necessity will be issued pursuant to Part III of the NEB Act.

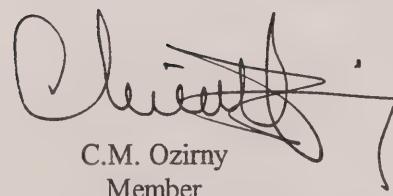
The Board confirms that no contribution-in-aid of construction is required for the Halifax Lateral facilities and that the full cost of service of the Halifax Lateral should be included in the calculation of M&NP's tolls.



J.A. Snider
Presiding Member



J.-P. Théorêt
Member



C.M. Ozirny
Member

Calgary, Alberta
October 1999

Appendix I

List of Issues

The Board has identified, but does not limit itself to, the following issues for discussion in the proceeding:

1. The economic feasibility of the proposed facilities.
2. The appropriateness of the design of the proposed facilities.
3. The safety of the design and operation of the proposed facilities.
4. The potential environmental and socio-economic effects of the proposed facilities.
5. The appropriateness of including the full cost of service of the Halifax Lateral in calculating M&NP's tolls.
6. The appropriate terms and conditions to be included in any approval which may be granted.

Appendix II

Certificate Conditions

Prior to and During Construction

1. Unless the Board otherwise directs, M&NP shall cause the approved facilities to be designed, manufactured, located, constructed and installed in accordance with the specifications, drawings and other information or data set forth in its application or as otherwise adduced in evidence before the Board in the GH-2-99 proceeding.
2. Unless the Board otherwise directs, M&NP shall, at least twenty-one (21) days prior to the commencement of construction of the approved facilities, file with the Board a detailed construction schedule or schedules identifying major construction activities including clearing and shall notify the Board of any modifications to the schedule or schedules as they occur.
3. Unless the Board otherwise directs, M&NP shall file with the Board, at least twenty-one (21) days prior to the commencement of construction, an inspection program that includes a detailed list of the number and type of each inspection position, including job descriptions and qualifications, that will be responsible for the inspection of the various pipeline construction operations, including environment and safety.
4. Unless the Board otherwise directs, M&NP shall implement or cause to be implemented all of the policies, practices, and procedures for the protection of the environment included in or referred to in its application, in its undertakings made to relevant regulatory authorities, and as adduced in evidence before the Board in the GH-2-99 proceeding.
5. Unless the Board otherwise directs, M&NP shall file with the Board and maintain at its construction office(s), copies of any permits, approvals or authorizations for the applied-for facilities issued by federal, provincial and other permitting agencies, which include environmental conditions, or site-specific mitigative, monitoring and restorative measures. In addition, M&NP shall file with the Board and maintain at its construction office(s), an information file(s) which would include any subsequent variations to any permits, approvals or authorizations obtained prior to, or following the commencement of construction.
6. Unless the Board otherwise directs, M&NP shall file with the Board for approval, at least sixty (60) days prior to the commencement of ground-breaking activities, updated copies of the Environmental Protection Plan, and advise as to whether Environment Canada, the Department of Fisheries and Oceans, the Nova Scotia Department of the Environment, and the Nova Scotia Department of Natural Resources concurs with the specific measures proposed therein.
7. Unless the Board otherwise directs, M&NP shall file with the Board for approval, at least thirty (30) days prior to the commencement of construction in the Lake Egmont wetland area, a detailed crossing plan that outlines the mitigation and monitoring measures for construction in the Lake Egmont wetland area. The detailed crossing plan shall have been reviewed by

Environment Canada, the Department of Fisheries and Oceans and the appropriate provincial authorities, and their comments on the plan shall be included. The comments should include a description of any protocol entered into with Canadian Wildlife Service and the circumstances under which compensation will be required. The detailed crossing plan shall also be included in the Environmental Protection Plan.

8. Unless the Board otherwise directs, M&NP shall construct the portion of the pipeline in the vicinity of the Lake Egmont wetland area and Gays River using a horizontal directional drill method and shall only employ a trenching method of the wetland area and a wet or dry crossing method of the Gays River between 1 August and 30 September in the event of a failed horizontal directional drill.
9. Unless the Board otherwise directs, M&NP shall ensure that the seed mixes used for reclamation contain species that are native or naturalized to Nova Scotia, with the exception of those seed mixes used for previously disturbed or agricultural areas.
10. Unless the Board otherwise directs, M&NP shall submit to the Board for approval, at least twenty-one (21) days prior to the commencement of construction at wet watercourse crossings, additional information regarding each watercourse crossing. The additional information shall include:
 - (a) a construction schedule for each crossing;
 - (b) the detailed construction designs for each crossing;
 - (c) the proposed duration of the construction of the crossings;
 - (d) in-stream timing restrictions identified by regulatory agencies;
 - (e) an erosion and sediment control plan;
 - (f) site-specific fish habitat compensation and restoration plans and advice as to whether or not those plans have been approved by the Department of Fisheries and Oceans;
 - (g) site-specific mitigative, monitoring and restorative measures to be employed as a result of consultations with regulatory agencies;
 - (h) if blasting is required, the blasting plan for each affected crossing, including comments from the Department of Fisheries and Oceans;
 - (i) if a horizontal drill of the Stewiakie River is determined not to be feasible, the geotechnical data upon which that decision was based;
 - (j) copies of all correspondence from the Department of Fisheries and Oceans and the Nova Scotia Department of the Environment regarding watercourse crossings, including evidence to demonstrate that all issues raised by regulatory agencies have been adequately addressed;

- (k) evidence to demonstrate that the proposed construction methods and site-specific mitigative and restorative measures are in compliance with federal and provincial legislation; and
- (l) the status of approvals, including any environmental conditions imposed on approvals which have been received.

11. Unless the Board otherwise directs, M&NP shall submit to the Board for approval, at least thirty (30) days prior to the commencement of construction of each of the watercourse crossings which appear on the 1:10,000 scale mapping, additional information regarding the treatment method to deal with acid drainage and specific mitigation measures to be implemented at watercourse crossings in areas of potential acid producing rock as developed in consultation with Environment Canada, the Department of Fisheries and Oceans and appropriate provincial authorities. The additional information shall set out for each watercourse crossing to be affected:

- (a) the name and location of the watercourse (including reference to kilometre-post);
- (b) the selected treatment method of the runoff water;
- (c) the proposed Canadian Water Quality Guideline values to be adhered to;
- (d) site specific mitigative, monitoring and restorative measures to be employed as a result of consultation with regulatory agencies;
- (e) evidence to demonstrate that all issues raised by regulatory agencies have been adequately addressed, including all necessary updates to the environmental assessment; and
- (f) the status of approvals, including any environmental conditions imposed on approvals which have been received.

12. Unless the Board otherwise directs, M&NP shall file with the Board for approval, at least twenty-one (21) days prior to the commencement of the construction at watercourse crossings, a detailed environmental effects monitoring program developed in consultation with Nova Scotia Department of Environment and the Department of Fisheries and Oceans, supported by all required approvals.

13. Unless the Board otherwise directs, M&NP shall submit to the Board for approval, at least thirty (30) days prior to the commencement of ground-breaking activities, the results of acid generating rock studies, including any locations which are likely to be affected by construction, the proposed mitigative measures, monitoring requirements and the results of consultations with Environment Canada, the Department of Fisheries and Oceans and appropriate provincial authorities. The Environmental Protection Plan shall include all of the above-referenced information.

14. Unless the Board otherwise directs, M&NP shall submit to the Board for approval, site-specific mitigation plans for each active nest of a raptor, Committee on the Status of Endangered Wildlife

in Canada listed bird species or other birds of provincial significance encountered within 400 m of the right-of-way, as developed in consultation with the Canadian Wildlife Service and the Nova Scotia Department of Natural Resources.

15. Unless the Board otherwise directs, M&NP shall submit to the Board for approval at least fourteen (14) days prior to the construction of any proposed temporary or permanent access roads:
 - (a) a description of the site;
 - (b) site-specific measures that would be used to mitigate the environmental effects and, in the event that measures other than those adduced during the GH-2-99 hearing are proposed, an analysis supporting these measures; and
 - (c) the results of consultations relating to access with landowners and the relevant municipal, provincial and federal government departments and agencies.
16. Unless the Board otherwise directs, M&NP shall consult with the Nova Scotia Museum of Natural History on appropriate further studies and a monitoring plan for high and medium-high potential archaeological/heritage sites, once the locations for detailed right-of-way, facility sites and temporary work space are determined. Unless the Board otherwise directs, M&NP shall file with the Board for approval, at least thirty (30) days prior to the commencement of ground-breaking activities, a report on the agreed upon studies, their status, and the proposed monitoring plan.
17. Unless the Board otherwise directs, M&NP shall file with the Board prior to the commissioning of the Halifax Lateral, an action plan, to be developed in consultation with Environment Canada, for minimizing and accounting for greenhouse gas emissions for all of M&NP's facilities in Atlantic Canada. M&NP shall file the results of this action plan with the Board and Environment Canada on an annual basis prior to the end of the calendar year.
18. Unless the Board otherwise directs, M&NP shall identify any potentially hazardous industrial operations or facilities adjacent to the right-of-way and shall file with the Board for approval, at least sixty (60) days prior to the commencement of construction of the approved facilities, a risk assessment of the pipeline in the vicinity of the industrial gases facility and any other potentially hazardous industrial operations or facilities. The assessment shall include:
 - (a) consideration of potential incidents at any facilities, which may lead to damage, puncture or rupture of the pipeline;
 - (b) consideration of potential pipeline incidents which may lead to damage, puncture or rupture of any such facilities; and
 - (c) where appropriate, mitigative or safety measures to minimize risk.
19. Unless the Board otherwise directs, M&NP shall file with the Board, at least twenty-one (21) days prior to the commencement of construction, a detailed waste management plan to be

developed in consultation with the appropriate federal, provincial, and municipal authorities and includes but is not limited to the following:

- (a) identifies all federal, provincial, and municipal waste management requirements relevant to pipeline construction;
- (b) categorizes all potential waste generated during construction, including slash and vegetation;
- (c) identifies the proposed treatment method for waste in each category; and
- (d) identifies potential approved landfill sites where waste generated in each category could be disposed.

20. Unless the Board otherwise directs,

- (a) M&NP shall forthwith enter into negotiations with the Assembly of Nova Scotia Mi'kmaq Chiefs to arrive at a mutual agreement, to be filed with the Board, regarding the process for consultations and input of the Assembly in respect of the construction of the project. M&NP shall provide bi-weekly reports to the Board and to the Assembly detailing the topics discussed and any progress made towards reaching a consensus, including a discussion of any progress toward the development of an alternative dispute resolution process to resolve outstanding areas of disagreement;
- (b) should the parties be unable to reach an agreement, M&NP shall, thirty (30) days prior to the commencement of construction, file for approval by the Board a protocol which shall include a process for conducting consultations and receiving input from the Assembly or from the Mi'kmaq community in respect of the construction of the project. M&NP shall serve a copy of the protocol and supporting documentation on the Assembly of Mi'kmaq Chiefs, and the Assembly will be given the opportunity by the Board to provide comments prior to the Board reaching a decision on whether or not to approve the protocol; and
- (c) until such time as a final agreement is reached between the parties, or a filed protocol is approved by the Board, M&NP shall adhere to the commitments set out in section 4.3 of the Draft 3.0 agreement between Sable Offshore Energy Inc. and M&NP and the Thirteen Mi'kmaq Saqmaq, dated 9 June 1998.

21. Unless the Board otherwise directs, M&NP shall provide bi-weekly reports to the Board and the Assembly of Nova Scotia Mi'kmaq Chiefs on progress during further stages of the TEK Study, including specifics on issues that are not being resolved in a timely fashion. These reports should commence with the issuance of a certificate, and end with the completion of construction.

22. Unless the Board otherwise directs, during the construction period, M&NP shall submit monthly construction reports that are satisfactory to the Board which detail the progress and current status of the project.

23. Unless the Board otherwise directs, M&NP shall, during construction, maintain for audit purposes at each construction site, a copy of the welding procedures and non-destructive testing procedures used on the project, together with all supporting documentation.
24. Unless the Board otherwise directs, M&NP shall notify the Board of any archaeological or heritage resources discovered during construction at the time of discovery and, as soon as reasonable thereafter, shall file with the Board for approval a report on the occurrence, the proposed treatment of the archaeological/heritage resources, any changes to the archaeological/heritage monitoring plan, and the results of any consultation including a discussion of any unresolved issues.

Post Construction

25. Unless the Board otherwise directs, M&NP shall file with the Board a post-construction environmental report within six months of the date that the facilities are placed in service. The post-construction environmental report shall set out the environmental issues that have arisen up to the date on which the report is filed and shall:
 - (a) indicate the issues resolved and those unresolved; and
 - (b) describe the measures M&NP proposes to take in respect of the unresolved issues.
26. Unless the Board otherwise directs, M&NP shall file with the Board on or before the 31 January that follows each of the first two complete growing seasons following the filing of the post-construction environmental report referred to in Condition 25:
 - (a) a list of the environmental issues indicated as unresolved in the report and any that have arisen since the report was filed; and
 - (b) a description of the measures M&NP proposes to take in respect of any unresolved environmental issues.

Appendix III

M&NP's Lateral Policy

17 Policy with respect to Fees and Construction of New Facilities

17.1 Customers may request that Pipeline construct a pipeline extension (other than a mainline extension) from Pipeline's existing facilities to deliver gas to one or more Customers, including new delivery points and enlargements or replacements of existing laterals. Pipeline is not required to build facilities upon Customer request or otherwise if, as determined by Pipeline in its reasonable judgment, such facilities are not operationally feasible, will adversely impact on Pipeline's existing services or would otherwise adversely impact on Pipeline's system. In the event Pipeline decides to construct such facilities and the contracted demand requested by a Customer generates sufficient revenue each year, based on a test toll designed to maintain the competitiveness of Pipeline's rates, to recover the annual cost of service associated with the incremental capital and operating cost of the facilities, Pipeline will proceed to construct the facilities without any contribution from the Customer. The test toll will remain in place until Pipeline's first mainline expansion at which time the appropriateness of the test toll may be revisited. If the facilities do not generate sufficient revenue to cover the cost of service associated therewith, Pipeline will require a Customer contribution in accordance with the following:

- (a) The annual cost of service associated with the facilities will be calculated for each year using conventional cost of service methodology based on Pipeline's estimate of the capital and operating costs of the facilities and a depreciation rate based on the term of the shipper's transportation contract.
- (b) A contribution will only be based on the period in which the facilities generate a revenue deficit.
- (c) Customers have the option of paying the contribution as a single lump-sum payment at the commencement of the facilities project or as a unit surcharge that would amortize the contribution over the term of the contract. If Customer elects to pay a surcharge, the surcharge may be adjusted up or down in future years, if new Customers request service on the same facilities.

Where a Customer requests service that requires more than one set of facilities to be constructed in the same time frame, as determined by Pipeline, such sets of facilities can be considered as one project for the purposes of calculating the need for any contribution.

17.2 Pipeline may waive from time to time, at its discretion, all or a portion of the monetary reimbursement requirement set forth in Section 17.1 if it determines that construction of the facilities would be economic, based on Customer assurance of transportation throughput through the proposed facilities and other matters, as described below. All requests for waiver shall be handled by Pipeline in a manner which is not unduly discriminatory.

For purposes of determining whether a project is economic, Pipeline will evaluate projects on the basis of various economic criteria, which may include, without limitation, the estimated transportation throughput, cost of the facilities, operating, maintenance, administrative and general expenses attributable to the facilities, the system net revenues Pipeline estimates will be generated subsequent to such construction and the availability of capital funds on terms and conditions acceptable to Pipeline. In estimating the system net revenues to be generated, Pipeline will evaluate the existence of capacity limitations of the existing facilities, the marketability of the capacity, the location of the markets, the nature of the transportation service, and other factors with impact the utilization of Pipeline's system.

- 17.3 Any monetary reimbursement due Pipeline by Customer pursuant to this Section 17 shall be due and payable to Pipeline within ten (10) Days of receipt by Customer of Pipeline's invoices for same; provided, however, such monetary reimbursement, plus carrying charges thereon, may be amortized over the contract term or a mutually agreeable period. Carrying charges shall be computed utilizing interest factors acceptable to both Pipeline and Customer.
- 17.4 Nothing in this statement of policy shall require Pipeline to file an application for a certificate of public convenience and necessity under Part III of the National Energy Board Act. Further, nothing in this policy statement shall prevent Pipeline from contesting an application for the provision of facilities filed pursuant to subsection 71(3) of the National Energy Board Act or a request to compel the rendition of service pursuant to subsection 71(2) of the National Energy Board Act. Pipeline reserves the right to seek a waiver of the policies set forth in this Section 17 for good cause shown during any proceeding before the NEB.

Appendix IV

Memorandum of Understanding dated 3 December 1997

1. Introduction

The purpose of this Memorandum of Understanding ("MOU") is to summarize the general scope and principles which have been agreed to in respect of certain aspects of the Sable Offshore Energy Project ("SOEP") and the Maritimes & Northeast Pipeline Project ("M&NPP") among the following parties (individually a "Party" and collectively the "Parties"): Mobil Oil Canada Properties ("Mobil"), Shell Canada Limited ("Shell, IORL and NSRL collectively referred to as the "SOEP Producers"), Maritimes & Northeast Pipeline Limited Partnership ("M&NE"), Nova Scotia Power Inc. ("NSPI") and the Province of Nova Scotia ("Nova Scotia").

2. Completion of Formal Agreements

The Parties undertake to negotiate in good faith and to execute and deliver all necessary formal agreements and other documents which may be required to carry out the terms of this MOU as soon as possible. The Parties recognize that in some instances the parties to the formal agreements may be affiliates of a Party rather than the Party itself or may include an affiliate of a Party in addition to such Party.

3. Halifax Lateral

Subject to obtaining all regulatory approvals, M&NE will construct a pipeline lateral from the M&NPP mainline pipeline to the Halifax Regional Municipality and terminating at the Tufts Cove NSPI power plant; provided that, NSPI enters into a firm service transportation agreement for a daily quantity of at least 45,000 MMBtu for a period of at least ten years which specifies Tufts Cove as the delivery point. NSPI agrees to specify its Tufts Cove power plant as the delivery point in its Precedent Transportation Service Agreement with M&NE dated March 4, 1997 for a daily quantity of at least 45,000 MMBtu and to enter into a firm service transportation agreement upon the satisfaction of all conditions precedent in such Precedent Transportation Service Agreement. M&NE agrees that it will not require an aid to construct from NSPI if it enters into a firm service transportation agreement on the foregoing terms.

4. Cape Breton Lateral

Subject to obtaining all regulatory approvals, M&NE will construct a pipeline lateral from the M&NPP mainline pipeline to the Point Tupper area in Cape Breton concurrently with the SOEP Producers' construction of the natural gas liquids pipeline; provided that, firm service transportation agreements are entered into in a timely fashion, for a daily quantity of at least 10,000 MMBtu for a period of at least twenty years which specify locations on such lateral as delivery points. As part of this 10,000 MMBtu, the SOEP Producers agree to enter into a firm service transportation agreement with M&NE for a daily quantity of at least 2,000 MMBtu for a period of at least 20 years which specifies the SOEP fractionation

plant at Point Tupper as a delivery point. The Parties recognize that there will be a substantial reduction in the overall costs of the natural gas liquids pipeline and the Cape Breton lateral if both pipelines are constructed at the same time. In order to allow the Cape Breton lateral to be constructed at the same time. In order to allow the Cape Breton lateral to be constructed at the same time and to lower the initial threshold quantity of gas which has to be transported on this lateral to satisfy M&NE's lateral policy, the SOEP Producers have agreed that M&NE will only be required to pay the incremental costs associated with the construction of the Cape Breton lateral which are over and above the stand-alone cost of constructing the natural gas liquids pipeline. This contribution by the SOEP Producers will allow the Cape Breton lateral to be constructed by M&NE without M&NE requiring an aid to construct from the M&NE shippers which will be transporting the initial 10,000 MMBtu of daily quantities on this lateral.

5. Nova Scotia Gas Market Development Initiative

In the spirit of the Canada-Nova Scotia Offshore Petroleum Resources Accord which provides that Nova Scotia should be the principal beneficiary of the petroleum resources in the offshore of Nova Scotia, the SOEP Producers will fund a government initiative to promote the use of gas within Nova Scotia during the initial ten year period of production from the SOEP. The level of the fund will be established based on a reasonable forecast of the quantities of gas to be consumed in Nova Scotia during such ten year period.

The fund will be managed by Nova Scotia and Nova Scotia deems it appropriate to use this fund in Government programs designed to achieve a lower delivered cost of gas for all gas consumers in Nova Scotia whether they are served directly off of the mainline pipeline or off of any lateral which may be constructed in Nova Scotia. M&NE supports the establishment of the fund and where appropriate, agrees that, upon the request of Nova Scotia, it will allow its administration and billing systems to be utilized in connection with Nova Scotia's management of the fund. The SOEP Producers and NSPI agree to allow their administration and billing systems to be utilized in a similar manner.

Funding of this Nova Scotia Gas Market Development Initiative is to be construed as being part of the benefits to be provided by the SOEP Producers of Nova Scotia and no other funds of similar mechanisms with the same intent or objective will be created by the SOEP Producers.

6. Economic Feasibility of the M&NPP

All Parties recognize that the Canadian segment of the M&NPP will require amongst other things, an initial daily threshold transportation contract quantity of 530,000 MMBtu of long term firm service to underpin its financing and to support its economics. Accordingly, each Party agrees that it will not take any action which would reduce the initial daily contract quantity to be transported on the Canadian segment of the M&NPP below this initial threshold daily contact quantity in order to allow the SOEP to proceed.

7. Tolls in Respect of Quantities in Excess of 530,000 MMBtu During the Initial Ten Year Period

Each Party recognizes that the regulators having jurisdiction could approve tolls for the Canadian segment of the M&NPP in respect of the transportation of daily quantities in excess of 530,000 MMBtu

which will allow M&NE to be market competitive with other transportation alternative (e.g. Bypass competitive rate). M&NE agrees to discuss all tolling methodologies for these quantities with the Parties and any other interested third parties including bypass rates, volume x distance rates and zones including a short-haul zone.

8. Tolling Methodology After the Expiry of the Initial Ten Year Period

Each Party recognizes that the regulators having jurisdiction could approve a tolling methodology on the Canadian segment of the M&NPP which will apply in respect of the transportation of daily quantities for the period after the initial ten year period of production from the SOEP which will not necessarily be a continuation of a discounted postage stamp toll methodology. M&NE agrees to discuss all other tolling methodologies with the Parties and any other interested third parties including volume x distance rates and zones prior to determining what tolling methodology it will apply for.

9. Nova Scotia Training and Research and Development Programs

The SOEP Producers and M&NE agree to work with Nova Scotia and other interested third parties in respect of instituting business focused gas industry training programs in Nova Scotia for both the SOEP and future projects involving both the offshore area of Nova Scotia and onshore Nova parties in respect of establishing gas industry research and development programs at institutes located in Nova Scotia for both the SOEP and future projects involving both offshore area of coordination of these programs will be carried out from within Nova Scotia. These initiatives include the following specific programs:

- a) creating a network of centres of excellence in onshore and offshore gas technology;
- b) training in offshore gas production operations utilizing the SOEP simulator;
- c) environmental, health and safety training; and
- d) making onshore gas distribution and pipeline and offshore industry training modules available and assisting in establishing training programs based on these modules.

10. Supply of Petrochemical Feedstocks

Each of Mobil, Shell, IORL and NSRL support the potential for the development within Nova Scotia of petrochemical uses for the production from the SOEP and specifically agree:

- a) to fractionate SOEP raw natural gas liquids into propane, butane and condensate in the Point Tupper area of Cape Breton;
- b) to not enter into any commitments to supply the fractionated natural gas liquids products for delivery outside of Nova Scotia, during the initial ten year period of production from the SOEP, under any arrangements with a term in excess of two years without ensuring that an equivalent product would be made available by the relevant producer, if required, for use within Nova Scotia at market competitive prices and on normal industry terms and conditions. If petrochemical development in Nova Scotia has not commenced by the end of the ninth year of the said ten year period, then SOEP Producers and Nova Scotia

will forthwith undertake to review the future prospects for petrochemical development in Nova Scotia, taking into account the expected future production from the offshore area of Nova Scotia; and

- c) to remove or to allow third parties to remove ethane from the gas which will be transported on the M&NPP under market competitive prices and on normal industry terms and conditions for use in Nova Scotia should a viable use for such ethane develop and provided that the third party or each SOEP Producer can make arrangements in order that an equivalent quantity of energy, meeting pipeline quality specifications, can continue to be delivered to M&NE's customers and further provided that the SOEP Producers do not suffer any negative financial consequences relating to either the upstream processing of gas or the downstream transportation and sale of gas.

11. Mobil's Interest in the M&NPP

Mobil offers to sell an agreed percentage of its interests in the M&NPP to NSPI. Mobil and NSPI will negotiate in good faith to establish the formal agreement respecting this arrangement. M&NE will obtain waivers of the appropriate rights of first refusal which any M&NE limited partner or any Maritimes & Northeast Pipeline, L.L.C. member may have in respect of any such disposition by Mobil to NSPI.

12. Nova Scotia Resources Limited

NSRL agrees to become an active participant in the SOEP and to use all reasonable efforts to work with the remaining SOEP Producers to sign the Sable Offshore Energy Project Commercial Terms Memorandum of Understanding dated April 1, 1997 and to work to finalize all critical SOEP project documents as soon as possible. NSRL and Nova Scotia agree that should NSRL wish to dispose of its interest in the SOEP either by an asset sale or as a result of the sale of the shares of Nova Scotia Resources (Ventures) Limited, then NSRL shall first provide Mobil and Shell with a right of first refusal. Such right of first refusal shall be in Priority to any rights of first refusal contained in any of the project documents to be entered into among the SOEP Producers. NSRL, Nova Scotia, Mobil and Shell will negotiate in good faith to establish the formal agreement respecting this right of first refusal arrangement.

13. Provincial Jurisdiction Over Laterals

Nova Scotia and M&NE will carry out further discussions to investigate whether the "transportation by others" concept could be utilized for future laterals to be constructed in Nova Scotia other than the proposed Halifax and Cape Breton laterals referred to in paragraphs 3 and 4 of this MOU. The Parties recognize that future laterals to other communities in Nova Scotia will be constructed as markets develop.

14. Regulatory Approvals

All Parties agree to publicly support the SOEP and the M&NPP. Nova Scotia agrees to support the SOEP Producers and M&NE in achieving all federal regulatory approvals, without delay, and in achieving, without delay, the necessary federal Governor-in-Council approvals. Each Party agrees that it

shall not seek any review, appeal or rehearing of the Joint Review Panel's recommendations contained in its October 27, 1997 report or of any decision or regulatory approval associated with the SOEP or the M&NPP which is consistent with such recommendations and each Party further agrees that it shall not support any third party in connection with any review, appeal or rehearing of any such decision or regulatory approval which may be sought by any third party.

15. Termination Rights

Any Party may elect to terminate any future obligations of such Party under this MOU by providing thirty days' written notice of its election to all other Parties in the event that:

- a) the SOEP Producers have not elected to proceed with the SOEP by December 31, 1997 or do not continue to proceed with the SOEP thereafter,
- b) M&NE does not continue to proceed with the M&NPP; cr
- c) the formal agreement required to address the matters set out in paragraphs 3,4 and 5 of this MOU have not been executed by December 15, 1997 or such later date as the Parties may otherwise agree.

The SOEP Producers and Nova Scotia may elect to terminate any future obligations which they may have under this MOU by providing thirty days' notice of its election to all other Parties if a definitive agreement among the SOEP Producers and Nova Scotia on royalty matters has not been reached by December 31, 1997. The SOEP Producers, M&NE or Nova Scotia may elect to terminate any future obligations which they may have under this MOU by providing thirty days' notice of its election to all other Parties if the formal agreement required to address the matters set out in paragraph 9 of this MOU has not been executed by December 15, 1997 or such later date as those Parties may otherwise agree. Mobil, Shell, IORI, NSRL or Nova Scotia may elect to terminate any future obligations which they may have under this MOU by providing thirty days' notice of its election to all other Parties if formal agreements required to address the matters set out in paragraphs 10 and 12 of this MOU have not been executed by December 15, 1997 or such later date as those Parties may otherwise agree. NSPI may elect to terminate any future obligations which it may have under this MOU by providing thirty days' notice of its election to all other Parties if the formal agreement required to address the matter set out in paragraph 11 of this MOU has not been executed by January 31, 1998 or such later date as NSPI may otherwise agree. Any Party providing a notice referred to in paragraph 15 of this MOU shall have no further obligations under this MOU from and after the end of the thirty day notice period.

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